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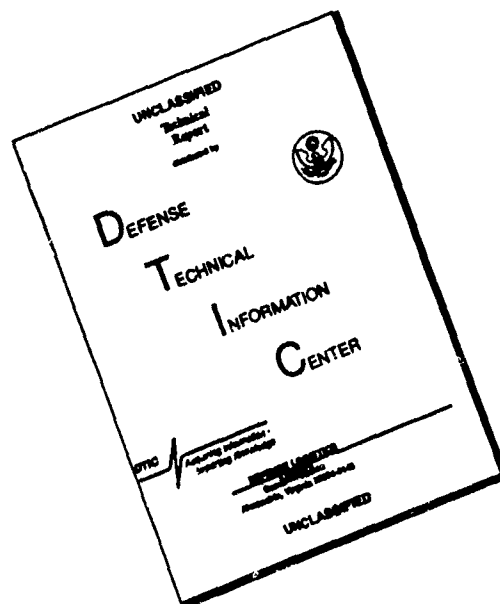
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Summary of

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*Center for
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1990

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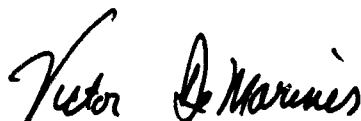
The MITRE Corporation is an independent not-for-profit organization devoted to research, development, engineering, and scientific activities in the public service. The company does not manufacture products or compete with industry.

After a reorganization in 1990, MITRE expanded from three to five operating centers. Personnel from two of the centers are located primarily at our headquarters in Bedford, Massachusetts (with one technical division located in the Washington area). These two centers are the Center for Air Force Command, Control, and Communications (C³) Systems and the Center for Intelligence and Special Programs. The remaining three operational centers are based in McLean, Virginia: the Washington C³ Center, the Center for Advanced Aviation System Development, and the Center for Civil Systems.

The Center for Intelligence and Special Programs supports the Air Force Electronic Systems Division (ESD), the Army and Navy, a wide variety of intelligence agencies, and the Unified and Specified Commands. The Center provides system engineering support to components of the intelligence community, particularly in the areas of networks, information security, artificial intelligence, and workstation technologies.

This publication is an overview of the professional activities of the Center for Intelligence and Special Programs for the 1990 calendar year. As in past years, our employees have made valuable contributions to the technical and scientific communities through their documents, journal articles, presentations, and participation in group activities. Many of our staff teach in local colleges and universities. Unclassified reports generated within the Center for Intelligence and Special Programs are listed here, as well as participation of our staff in professional and honorary organizations.

We are proud of our employees and their many professional activities, successes, and contributions to the community. We are pleased to recognize them in this *Summary of Professional Activities* publication.

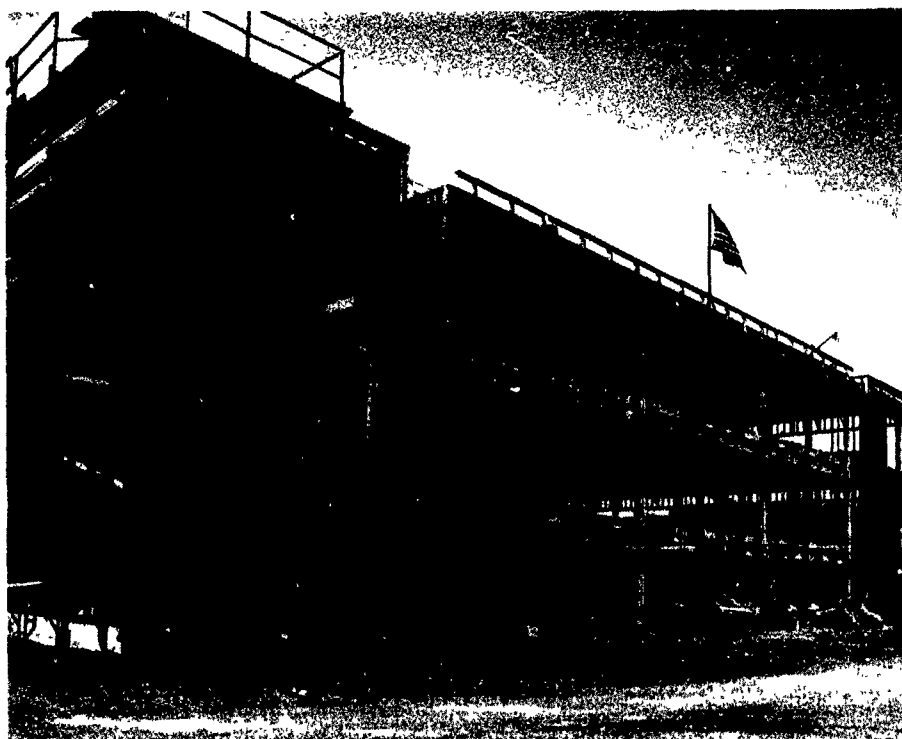


Victor A. DeMarines
Senior Vice President and General Manager
Center for Intelligence and Special Programs

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*1990
Summary of
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*A view of work in progress
on MITRE-Bedford's
M-Building, Spring 1991.*

1990
Summary of
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**MITRE
Conferences,
Workshops,
Symposia,
and Fairs**

*These events were
sponsored or organized by
MITRE, and included
participants from outside
MITRE.*

15 March
Third Symposium on
Parallel Computers,
MITRE-Washington

15 April
Object-Oriented Technol-
ogy Day Symposium,
*Security in Object-
Oriented Database
Systems, Object-Oriented
Programming, and
Discrete Event Simula-
tion in MODSIM II and
Small Talk-80*, Bedford,
Massachusetts

23 May
GOSIP Awareness Day
Symposium, MITRE-
Washington

24 May
GOSIP Awareness Day
Symposium, MITRE-
Bedford

24-25 May
MITRE Supercomputing
Workshop, MITRE-
Washington

6 June
Local Area Network
Technology Review,
MITRE-Bedford

19-21 June
COTS Integration Work-
shop, MITRE-Washington

10-12 July
MITRE Workshop on
Object-Oriented Design
Methodologies, Washing-
ton, D.C.

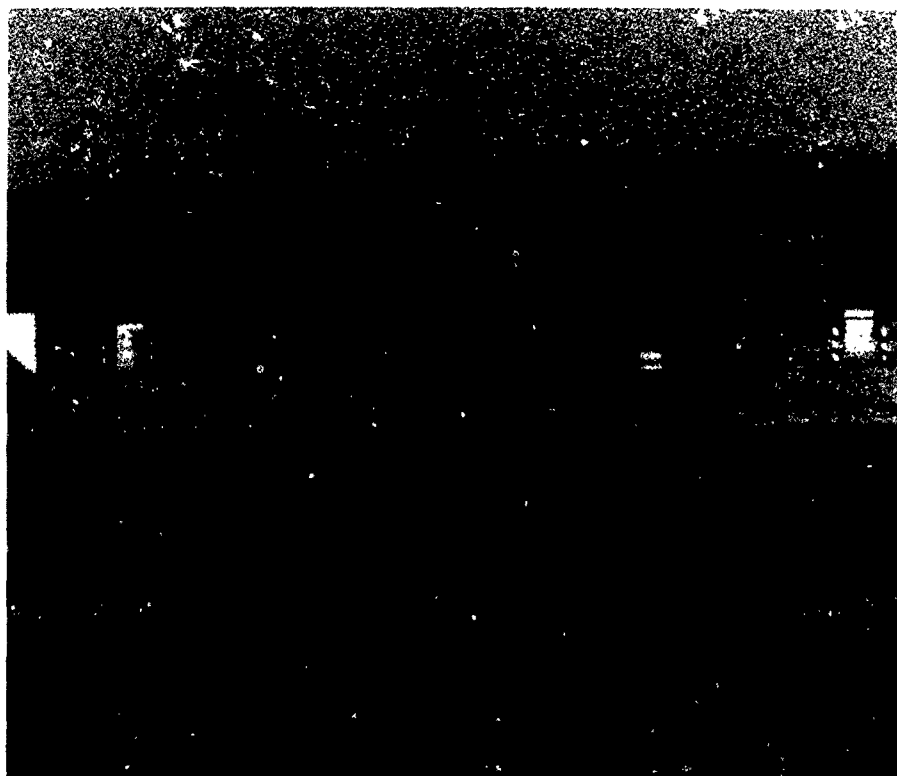
21-22 August
COTS Integration Work-
shop, "Local Area
Network Security,"
MITRE-Washington

10-11 October
Industrial Security
Working Group (ISWG)
Meeting, MITRE-Bedford

17-18 October
Air Force Association
(AFA) Intelligence
Symposium, MITRE-
Bedford

18-20 November
Technical Exchange
Meeting VIII,
Charlottesville, Virginia

21 December
COTS Experiences
Seminar, MITRE-Bedford



The work of the Intelligence and Electronic Warfare Systems Division (G030) includes image processing, exploitation, and dissemination projects for intelligence applications. Shown here is the Joint Service Imagery Processing System (JSIPS) installed at a site in Germany for field test and evaluation.

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Herman, Gregory,
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Wiggert, Djimitri,
Former MITRE Employee
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Broder, Alan J., Former MITRE Employee,
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Masterman, Hugh C., D060,
Veron, Harry H., D060,
Wittenburg, Timothy M., G030,
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Greenwood, Dorothea G., W140
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*Technical Description: A
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*The Design and Imple-
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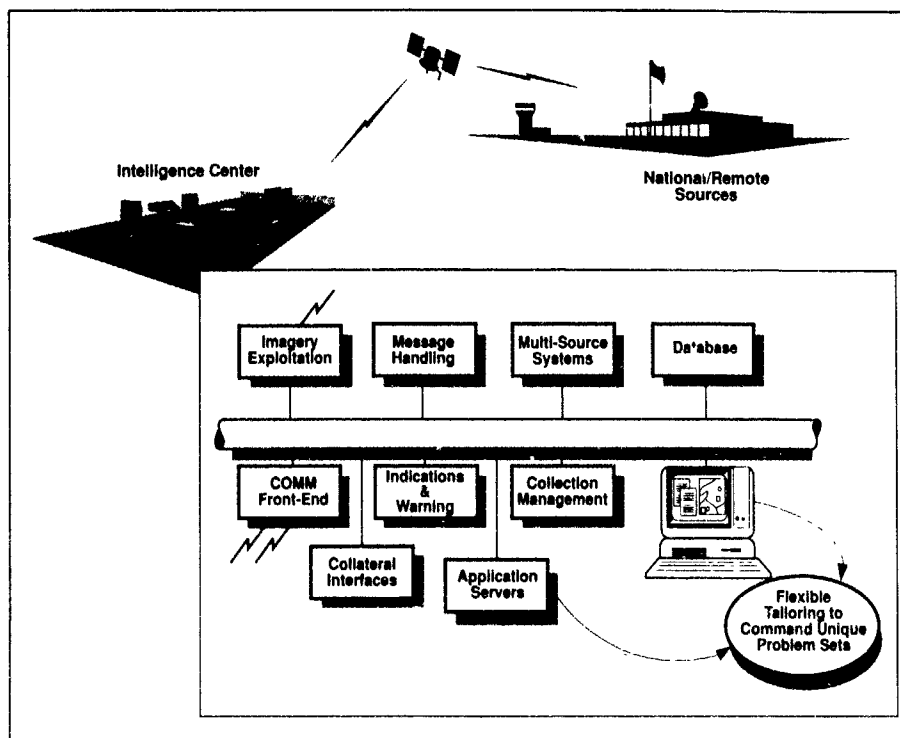
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"Interconnects for Military Systems," 1990 IEEE Military Communications Conference (MILCOM '90), Monterey, California, 30 September-3 October 1990.

Edwards, David L., G140
"Integrated Tactical/Strategic Data Network (ITDN) Update," and "ITDN Network Management Review," The 1990 Rome Air Development Center (RADC) Network Management/Control in the Tactical Environment Workshop, Rome, New York, April 1990.

Farmer, William M., G110
"PF: The Basis of the IMPS Logic," Types and Logic Seminar, Laboratory for Computer Science, M.I.T., Cambridge, Massachusetts, 4 April 1990.

Farmer, William M., Guttman, Joshua D., Thayer, F. Javier, G110
"IMPS: An Interactive Mathematical Proof System," Logic Colloquium Series, School of Computer Science, Carnegie Mellon University, Pittsburgh, Pennsylvania, 1 November 1990; Mathematics Department, Harvard University, Cambridge, Massachusetts, 30 October 1990; 10th International Conference on Automated Deduction, Kaiserslautern, Germany, 24-27 July 1990.

Ford, William R., G110
"The Inference Problem in Multilevel Secure Database Management Systems," 3rd RADC Database Security Workshop, New York, New York, June 1990.

Friedman, David H., G110
"Implementation of a Nonlinear Wave Digital Filter Cochlear Model," Mechanics and Biophysics of Hearing (Conference), University of Wisconsin, Madison, Wisconsin, 25-29 June 1990; IEEE International Conference on Acoustics, Speech & Signal Processing (ICASSP-90), Albuquerque, New Mexico, 3-6 April 1990.

Gramenopoulos, Nicholas, Selander, John M., G140
"Multisensor Targeting Modeling," 1990 DARPA-SPIE Sensor Data Fusion Conference, Sensor Fusion, Orlando, Florida, April 1990.

"Multisensor Target Modeling Project," Intelligence Community Modeling Group Conference, ICMG Conference, Albuquerque, New Mexico, January 1990, Washington, D.C., June 1990, Rome, New York, November 1990.

Graubart, Richard D., G110, Louanna Notargiacomo, G140
"Mental Health Delivery: The Problem Solved?" 1990 IFIP Database and Security Workshop, Halifax, England, September 1990.

Guttman, Joshua D., G110
"IMPS: An Interactive Mathematical Proof System," 1990 IEEE Symposium on Research in Security and Privacy, Oakland, California, 7-9 May 1990.

**Guttman, Joshua D.,
Ko, Hai-Ping, G110**
"Verifying a Hardware
Security Architecture,"
1990 IEEE Computer
Society Symposium on
Research in Security and
Privacy, Oakland, Califor-
nia, 7-9 May 1990.

**Hamisevicz, Nicholas T.,
Virotek, Ronald F.,
G140**
"An Automated Scenario
Generation System for
Tactical Ground Forces,
Seventh Annual Workshop
on Command and Control
(C²) Decision Aiding,"
hosted by the Air Force
Institute of Technology
(AFIT), Wright-Patterson
AFB, Dayton, Ohio, 3-5
April 1990.

Johnson, Dale M., G110
"Information Flow in
Nondeterministic Sys-
tems," 1990 IEEE
Symposium on Research
in Security and Privacy,
Oakland, California, 7-9
May 1990.

**Katz, Joseph L., G110,
Smith, Barry D., D040**
"Range Scheduling Aid,"
The Third International
Conference on Industrial
and Engineering Applica-
tions of Artificial Intelli-
gence and Expert Systems,
IEA/AIE-90, Charleston,
South Carolina, July 1990.

**LaBarre, Claude E.,
G110**
"TCP/IP Network
Management," RADC
Workshop on Network
Management for Tactical
Networks, Rome, New
York, 8-11 April 1990.

**Lafferty, Edward L.,
G110**
"Computer Technology,
An Executive Summary,"
BOLD STROKE Senior
Executive Forum on
Software Management,
Maxwell AFB, Alabama,
20-22 March 1990; 6-8
November 1990.

Keynote speaker, "AI and
Ada — A Good Marriage
or a Shotgun Wedding,"
sponsored by George
Mason University, The
Institute for Defense
Analyses, and the Soft-
ware Consortium in
cooperation with the ACM
SIGAda AI WG and
AJPO, Reston, Virginia,
15 November 1990.

Guest speaker, "Ada
Technology Transition,"
TRI-Ada '90 Conference,
ACM/SIGAda and
Baltimore SIGAda,
Baltimore, Maryland, 4
December 1990

**LaPadula, Leonard J.,
G110**
"Formal Modeling in a
Generalized Framework
for Access Control,"
Computer Security
Foundations Workshop
III, Franconia, New
Hampshire, 14 June 1990.

Lee, Bonita G., G030
"Pattern Spectrum
Morphology for Texture
Discrimination and Object
Recognition," 1990 SPIE
Intelligent Robots and
Computer Vision IX,
Boston, Massachusetts,
November 1990.

**Lehar, Steven M.,
Howells, Timothy P.,
Smotroff, Ira G., G110**
"Application of Grossberg
and Mingolla Neural
Vision Model to Satellite
Weather Imagery,"
International Conference
on Neural Networks,
Paris, France, June 1990.

LeMoine, Julie E., G110
"DODIIS Network
Security for Information
eXchange," Compart-
mented Mode Workstation
Application Day, McLean,
Virginia, 21 September
1990; Network Interface
Equipment 1990 Vendor
Information Day, McLean,
Virginia, 27 November
1990

**Presentations
at External
Conferences**

Maciorowski, Susan M., G030

"Insights into Public/Private Sector Processes," GAO/IMTEC Management Conference on Similarities and Differences between the Public and Private Sector, Solomons Island, Maryland, February 1990.

Marcotte, Richard A., G110

"Model-Based Diagnostic Reasoning Using VHDL," VHDL Users' Group Meeting, Boston, Massachusetts, 4-6 April 1990.

"System-Level Application of Model-Based Diagnostic Reasoning," Fourth Leesburg Workshop on R&M CAE in Concurrent Engineering, Leesburg Virginia, 9-11 October 1990.

Maybury, Mark T., G110

"Generating Descriptions, Comparisons, Summaries and Recommendations from a Knowledge Based Tactical Mission Planner," The 3rd International Conference on Human-Machine Interaction and Artificial Intelligence in Aeronautics and Space, ODYSSUD, Toulouse, Blagnac, France, 26-28 September 1990.

"Generating Natural Language Definitions from Classification Hierarchies," American Society for Information Science (ASIS) '90 Workshop on Classification Research, Toronto, Canada, 4 November 1990.

Invited Lecturer, "Machines That Talk Like You and Me," at annual Sigma Xi dinner, Andover-Newton Theological Seminary, 11 November 1990.

McKenna, Sean J., G030

"Advanced Processing Techniques," 27th Annual Association of Old Crows Electronic Warfare Technical Symposium, Boston, Massachusetts, 23-27 September 1990.

Millen, Jonathan K., G110

"The Interrogator: Protocol Vulnerability Analysis," Workshop on Mathematical Concepts of Dependable Systems, Oberwohlfach, West Germany, April 1990.

"Security for Knowledge-Based Systems," Workshop on Secure Object-Oriented Systems, Karlsruhe, West Germany, April 1990.

"Hookup Security for Synchronous Machines," IEEE Computer Security Foundations Workshop III, Franconia, New Hampshire, June 1990.

"Honesty is the Best Policy," RADC Workshop on Secure Database Systems, Castile, New York, June 1990.

"Single-Level Objects for Security Kernel Implementation," 13th National Computer Security Conference, Washington D.C., October 1990.

Mulvehill, Alice M., G110, Nicholson, James (NASA, Kennedy Space Center)

"Expert Knowledge Techniques Applied to the Analysis of Electric Field Mill Data," Conference on Atmospheric Electricity, Kananaskis Provincial Park, Alberta, Canada, 22-26 October 1990.

Mutchler, Carl N., Laskowski, Sharon J., G140

"Script Matching and Belief Propagation," 5th IEEE International Symposium on Intelligent Control, Philadelphia, Pennsylvania, September 1990.

Neiberg, Maurine J., G110

"Efficient Diagnosis of Sequential Circuits Using Design Models," Artificial Intelligence and Advanced Automation Techniques for Fault Diagnosis and Recovery Workshop, Houston, Texas, June 1990.

Nieparent, Richard, Jr., G140

"ASAS Inter-BFA Protocols," Army Technical Interoperability Working Group, Ft. Monmouth, New Jersey, 5 April 1990.

"Use of OSI Protocols for U.S. Army Tactical Command and Control Applications," NATO OSI Military Symposium (Peer Reviewed), The Hague, Netherlands, 6-9 June 1990.

"TCP/OSI/GOSIP: Tools for Coexistence," UNIX EXPO Conference, New York, New York, 31 October-2 November 1990.

O'Keeffe, Jonathan, G110

"The Inference Problem in Multilevel Secure Database Management Systems," 3rd RADC Database Security Workshop, New York, New York, June 1990.

Parker, Richard L., G110

"Layer 2 Security Services for LANs," National Computer Security Conference, Washington, D.C., October 1990.

Pease, Barbara J., G110

"Position of Extending the General Terminal Interface Semantics for TFA," IEEE P1003.8 POSIX Transparent File Access Committee meetings, New Orleans, Louisiana, January 1990.

Prelle, Myra Jean, G110

"Distributed Object-Oriented Programming," RADC/COAC Technology Interchange, 27-29 November 1990.

Prelle, Myra Jean, G110, Wollrath, Ann M., G110, Brando, Thomas J., G110, Bensley, Edward H., D070

"The Impact of Selected Concurrent Language Constructs on the SAM Runtime System," Workshop on Object-Based Concurrent Systems at OOPSLA/ECOOP '90 Joint Conference, Ottawa, Canada, October 1990.

Prescott, Leslie S., G030

"System Architecture for Single Site Passive Ranging," 1990 U.S. DOD Joint Service Combat Identification Systems Conference, Monterey, California, 4-6 December 1990.

Rebovich, George, G030

"The NATO Identification System Employment Architecture," 1990 U.S. DOD Joint Service Combat Identification Systems Conference, Monterey, California, 4-6 December 1990.

Roberts, Barbara H., G110

"Automatic Simulation of Extended Finite State Machines for Session Layer Protocol Verification," Simulation Computer Society Conference '90, Calgary, Alberta, Canada, 16-18 July 1990.

"Fukushima's Neural Network," IEEE Signal Processing, M.I.T., Lincoln Laboratory, Lexington, Massachusetts, 18 December 1990.

Shirey, Robert W., G140

"Defense Message System Security," Armed Forces Communications and Electronics Association (AFCEA) Military/Government Computing Conference and Exposition, January 1990.

"Defense Message System Security," 13th National Computer Security Conference, October 1990.

**Presentations
at External
Conferences**

Silverman, Robert D., G110

"Parallel Polynomial Arithmetic over Finite Rings," Cornell Mathematical Sciences Institute Workshop on Computer Algebra and Parallelism, Ithaca, New York, May 1990.

"An Analysis of Group Orders on Elliptic Curves," West Coast Number Theory Conference, Pacific Grove, California, December 1990.

Smith, Chester L., G030

"Features that Distinguish a High Power Microwave Weapon from a Radar or Jammer," Fifth National Conference on High Power Microwave Technology, West Point Military Academy, 10-15 June 1990.

Smith, Irving R., G030

"Qualitative Description of Upset Phenomena Created by Signal Overload," Querque Crows Symposium on Test and Evaluation of Advanced EW Technologies, Sandia National Laboratories, Albuquerque, New Mexico, 17-19 April 1990.

"Thermal Overload Induced in Semiconductor Materials under Single and Multiple Pulse Free Field Radiation," and "Statistical Methods for Estimating Front-Door Coupling Loss," Fifth National Conference on High Power Microwave Technology, West Point Military Academy, 10-15 June 1990.

Smotroff Ira G., G110

"Meteorological Classification of Satellite Imagery Using Neural Network Data Fusion," AIRIES 90 Workshop, Artificial Intelligence Research in the Environmental Sciences, Quebec, Canada, 26 September 1990.

"Meteorological Classification of Satellite Imagery Using Neural Network Data Fusion," IEEE International Joint Conference on Neural Networks, San Diego, California, June 1990.

"The Iterative Atrophy Self Scaling Learning Algorithm," Constructive and Destructive Learning Algorithms Workshop, IEEE Conference on Neural Information Processing Systems — Natural and Synthetic, Denver, Colorado, November 1990.

Sprung, James G., G140

"Storage and Transmission Requirements," Fingerprint Image Workshop at the National Institute of Standards and Technology, Gaithersburg, Maryland, September 1990.

"NCIC 2000 Interface Requirements Specification," NCIC Regional Working Groups, Carson City, Nevada, September 19; Atlanta, Georgia, September 26-27; Battle Creek, Michigan, November 27-28; Albany, New York, November 29-30.

Thuraisingham, Bhavani M., G110

Presented panel paper, "Database Security — Threats, Solutions, Designs and Products," at the 6th International Data Engineering Conference, Los Angeles, California, February 1990.

"Mathematical Formalisms for Multilevel Object-Oriented Systems," Workshop on Object-Oriented Database Security, Karlsruhe, West Germany, April 1990.

"Recursion Theoretic Complexity of the Inference Problem in Database Security," Computer Security Foundations Workshop III, Franconia, New Hampshire, June 1990.

"Novel Approaches to the Inference Problem," "Trusted Distributed Database Management Systems," and "The Inference Problem in Multilevel Secure Database Management Systems," 3rd RADC Database Security Workshop, New York, New York, June 1990.

"Multilevel Security for Multimedia Systems," 4th IFIP Database Security Workshop, Halifax, England, September 1990.

Presented two panel papers, "Issues in Trusted Distributed Database Management Systems — A Position Paper," and "Issues in Multilevel Secure Object-Oriented Database Management Systems — A Position Paper," at the 13th National Computer Security Conference, Washington, D.C., October 1990.

Thuraisingham, Bhavani M.,
Kamon, Ammiel, G110
"Secure Query Processing in Distributed Database Management Systems — Design and Performance Study," 6th Computer Security Applications Conference, Tucson, Arizona, December 1990.

Trostle, Jonathan T., G110
"The Serial Product of Controlled Signalling Systems: A Preliminary Report," Computer Security Foundations Workshop III, Franconia, New Hampshire, June 1990.

Vilain, Marc B., G110
"Getting Serious about Parsing Plans: A Grammatical Analysis of Plan Recognition," Eighth National Conference on Artificial Intelligence (AAAI '90), Boston, Massachusetts, 29 July–3 August 1990.

"Function Anaphora with Replacement," Ninth European Conference on Artificial Intelligence (ECAI '90), Stockholm, Sweden, 6–10 August 1990.

Wefer, Frederick L., G140
"Ins and Outs of Hidden Line Removal," Template Graphics Software (TGS) User Network Conference, Dallas, Texas, August 1990.

**Papers
Published in
Refereed
Professional
Journals and
Conference
Proceedings**

**Berger, Jeffrey L., G110,
Picciotto, Jeffrey, G110,
Woodward, John P. L.,
G110,
Cummings, Paul. T.
(Digital Equipment
Corporation)**
"Compartmented Mode
Workstation: Prototype
Highlights," *IEEE
Transactions on Software
Engineering*, Vol. 16, No.
6, June 1990, pp. 608-618.

**Farmer, William M.,
G110**
"A Partial Functions
Version of Church's
Simple Theory of Types,"
Journal of Symbolic Logic,
Vol. 55, No. 3, September
1990, pp. 1269-1291.

**Farmer, William M.,
Ramsdell, John D.,
Watro, Ronald J., G110**
"A Correctness Proof for
Combinator Reduction
with Cycles," *ACM
Transactions on Pro-
gramming Languages
and Systems*, Vol. 12,
No. 1, January 1990,
pp. 123-134.

Koton, Phyllis A., G110
"A Medical Reasoning
Program that Improves
with Experience," *Com-
puter Methods and
Programs in Biomedicine*,
Volume 30, Nos. 2/3.
(Also appeared in *Causal
AI Models: Steps Towards
Applications*, 1990,
Washington D.C.:
Hemisphere Publishing
Company.)

Moser, Philip J., G140
"Complex Resonances
of Conducting Spheres
with Glossy Coatings,"
*IEEE Transactions on
Antennas and Propaga-
tion*, Vol. 38, February
1990, pp. 236-240.

**Nadel, Mark E., G110,
Stavi, Jonathan (Bar Ilan
University, Ramat Gan,
Israel)**
"On Models of the
Elementary Theory of $(Z,
+, 1)$," *The Journal of
Symbolic Logic*, Vol. 55,
No. 1, March 1990

**Neiberg, Maurine J.,
G110**
"System-Level Applica-
tions and Research
Directions for Model-
Based Diagnostic Reason-
ing," *Proceedings of
Second AAAI Workshop
on Model Based Reason-
ing*, Boston, Massachu-
setts, July 1990.

Shirey, Robert W., G140
"Defense Data Network
Security Architecture,"
*Computer Communication
Review*, April 1990.

**Silverman, Robert D.,
G110**
"Parallel Polynomial
Arithmetic over Finite
Rings," *Journal of
Parallel and Distributed
Computing*, Vol. 10,
November 1990,
pp. 265-271.

**Silverman, Robert D.,
G110,
Montgomery, Peter L.
(UCLA)**
"An FFT Extension to the
P-1 Factoring Algorithm,"
*Mathematics of Computa-
tion*, Vol. 54, April 1990,
pp. 839-853.

Thayer, F. Javier, G110, Frid, Hermano (Federal University of Rio de Janeiro)

"An Abstract Version of the Morse Index Theorem and Its Application to Hypersurfaces of Constant Mean Curvature," *Boletim da Sociedade Brasileira de Matematica*, Vol. 20, No. 2, 1990, pp. 59-68.

Thuraisingham, Bhavani M., G110

"Security in Object-Oriented Database Systems," *Journal of Object-Oriented Programming*, Vol. 2, No. 6, March/April 1990.

"Towards the Design of a Secure Data/Knowledge Base Management System," *Data and Knowledge Engineering Journal* (North Holland), Vol. 5, No. 1, March 1990.

"Design of LDV — A Multilevel Secure Database Management System," *IEEE Transactions on Knowledge and Data Engineering*, Vol. 2, No. 2, June 1990.

"Artificial Intelligence Applications in Database Security," *Computer Security Journal*, Vol. 6, No. 1, November 1990 (Miller Freeman Publishers).

Thuraisingham, Bhavani M., G110,

Konar, Ferit (Honeywell), Felix, Paul (Honeywell)

"XIMKON — an Expert Simulation and Control Program," *Artificial Intelligence in Process Engineering*, Academic Press, May 1990, Ed: M. Mavronopoulos.

Books

Books

Brusil, Paul J., G110
"The NMSIG: A Phased Approach to OSI-Based Network Management," chapter in the book, *Network Management*, McGraw-Hill, Delran, New Jersey, 1990.

"The Commercialization of OSI Management Standards," chapter in the book, *Network Management*, McGraw-Hill, Delran, New Jersey, 1990.

**Brusil, Paul J.,
LaBarre, Claude E.,
G110**
"Network Management Update: MAP/TOP, TCP/IP, and GOSIP," chapter in the book, *Network Management*, McGraw-Hill, Delran, New Jersey, 1990.

**Rodi, Linda L., G110,
Dalton, R. E. (Vitro Corp.),
Pierce, J. A. (Vitro Corp.)**
"Graphical Knowledge Acquisition for Fault Diagnosis and Repair," chapter in the book, *Readings in Knowledge Acquisition: Current Practices and Trends*, K. L. McGraw and C. R. Westphal, eds., Ellis Horwood Ltd., Chichester, United Kingdom, 1990.

Stevens, Roger T., G030
Fractal Programming in Turbo Pascal, M&T Books, Redwood City, California, 1990.

Fractal Programming and Ray Tracing with C++, M&T Books, Redwood City, California, 1990.

Advanced Fractal Programming in C, M&T Books, Redwood City, California, 1990.

This category includes MITRE staff who played a special role (beyond that of "member") in external professional organizations.

Ames, Stanley R., G110
Standards Chair for the IEEE Technical Committee on Computer Security and Privacy; IEEE Standards Activity Board; IEEE Standards Coordinating Committee.

Brasie, Ruth A., G030
First Vice President of Boston Section of Society of Women Engineers.

Brusil, Paul J., G110
Convenor and Chairman of the U.S. Department of Commerce's National Institute of Standards and Technology's Open Systems Interconnection Workshop's Network Management Special Interest Group and its liaison to the Interoperability Technology Association for Information Processing — Japan; Member of the Executive Committee of the U.S. Department of Commerce's National Institute of Standards and Technology's Open Systems Interconnection Implementors Workshop; North American Open Systems Interconnection User Delegate to the International Regional Workshop Coordinating Committee

for the International Organization for Standardization's (ISO's) International Standards Profiles; Co-Chair for Advanced Planning, Executive Committee member, Program Committee member and referee for the Second International Symposium on Integrated Network Management, Washington, D.C., April 1991; Program Committee member, Session Organizer and Session Chair for the 1990 IEEE Network Operations and Management Symposium (NOMS '90), San Diego, California, February 1990; Executive Committee member and Program Committee member for the 1992 IEEE Network Operations and Management Symposium (NOMS '92), Memphis, Tennessee, March 1992; Member Advanced Planning Committee of the Third International Symposium on Integrated Network Management, Panama City, Florida, April 1993; Secretary of the Institute of Educational Services.

Cooley, Jerry L., G110
Director of Public Relations, San Antonio Computer Society.

Evans, Bruce P., G030
President of Albuquerque Chapter, Association of Old Crows.

Farmer, William M., G110
Reviewer for the *Journal of Symbolic Logic*.

Gerdeman, Peter, G140
Principal Member, ANSI X3B11, American National Standards Institute, Standards Technical Committee Promoting Optical Media Interchangeability.

Gramenopoulos, Nicholas, G140
Member, Applied Imagery Pattern Recognition (AIPR) Workshop, and is a member of its Steering Committee and Chairman of Conference arrangements.

Graubart, Richard D., G110
Organized and participated in panel, "Access Control Revisited: A Time for a Retrospective," National Computer Security Conference, October 1990; organized and chaired panel, "Trusted Subject-Based DBMSs," Sixth Computer Security Applications Conference, December 1990.

1990
Summary of
Professional
Activities

**External
Professional
Roles**

Guttman, Joshua D., G110
Referee, National Computer Security Conference; Referee, IEEE Symposium on Research in Security and Privacy; Session Chair, National Computer Security Conference, Washington, D.C.

Jacobs, Joel D., G110
Internet Activities Board (IAB), Internet Engineering Task Force (IETF), Security Area Advisory Group (SAAG).

Janeri, John V. A., G110
Reviewer for *IEEE Computer Magazine*, member of the Hypermedia/CD-ROM Subcommittee of the Boston Computer Society.

Kaseman, Tamara C., Bigelow, Joseph S., Blank, Andrew J., G140
NATO Systems Planning Group for two meetings of the Allied Command Europe (ACE) Intelligence Architecture Working Group.

Ko, Hai-Ping, G110
Mathematical Reviewer for American Mathematical Society; Referee for the journal *Algorithmica*.

Koton, Phyllis A., G110
Reviewer for *Cognitive Science Journal*; Reviewer for AAAI Spring Symposium, Spring 1990.

LaBarre, Claude E., G110
U.S. Delegate to ISO/IEC Sc21/WG4 Network Management; Chair of the Internet Engineering Task Force (IETF) OSI Internet Management (OIM) Working Group.

Labonté, Robert C., G110
Co-editor of *IEEE Transactions on Education*, Special Issue on NASA Self-Contained Payloads Program.

Lafferty, Edward L., C 10
"Software and Computer Science Overview," panel member of The Government's Role in Performing Research in the United States, 1990 ACM Eighteenth Annual Computer Science Conference, Washington, DC, 20-22 February 1990.

Workshop Chairman for AAAI-91 Conference.

McLaughlin, Ann V., G110
Member of the Steering and Technical Committee for OSINET.

Mekshes, Michael W., G110
Member of the MIL-STD-188-131 Video Teleconferencing Standards Committee.

Millen, Jonathan K., G110
Reviewer for *IEEE Transactions on Software Engineering, Communications of the ACM*, and *ACM Transactions on Computer Systems*; Member of Program Committee, IEEE Computer Security Foundations Workshop III and 13th National Computer Security Conference.

Nadel, Mark E., G110
Editor, *Notre Dame Journal of Formal Logic*.

Nesbit, Robert F., G030
Member of Defense Science Board 1990 Summer Study, "Technology for Tactical Forces"; Member of Defense Science Board 1990 Special Study, "Technology Support to Desert Shield"; Expert witness for Senate Foreign Relations Committee on sensors for "Open Skies" Treaty.

Nieparent, Richard J., G140

Member of the American National Standards Institute (ANSI) X3T5 standards committee responsible for the U.S. contributions to the development of the International Standards Organization's (ISO) OSI Reference Model and upper layer protocols; Chairman of the Sponsor OSI Support Cluster Group, and is responsible for obtaining local and outside speakers. The objective of the SOS group is to provide the MITRE technical staff with an understanding of the problems and issues associated with transitioning to GOSIP; Initialized and is responsible for the overall MITRE support to the Center for Excellence in Education's Research Science Institute (RSI) summer program. RSI is a program that selects highly talented high school students for a 6-week summer program of research and education; Panel member of Session W1 — "TCP/IP/GOSIP: A Pathway to Computer Networking," UNIX EXPO Conference, New York, New York, 31 October–2 November 1990.

Picciotto, Jeffrey, G110

MITRE Advisory Committee Representative and Technical Liaison Officer to the X Consortium; Member of the IEEE Portable Operating System Interface for Computer Environments (POSIX) Security Working Group; Member of the IEEE Technical Committee on Operating Systems Balloting Group.

Prelle, Myra Jean, G110

Referee, *IEEE Transactions Parallel and Distributed Systems*; *ACM Transactions on Computer Systems*.

Ramsdell, John D., G110

Secretary for the P1178 Working Group of the IEEE Microprocessor Standards Committee Standardizing the Scheme Programming Language.

Roberts, Barbara H., G110

Session Chairperson at the 1989–1990 Simulation Computer Society Conference '90, Calgary, Alberta, Canada, 16–18 July 1990; Group Chairperson at the 1990–1991 Simulation Computer Society Conference '91, Baltimore, Maryland, 22–24 July 1991; Finance and Budget Chair for IEEE Signal Processing Mini Conference, April 1991.

Ruh, William A., G140

ACM Object Oriented Programming Languages, Systems, and Applications (OOPSLA), Conference Committee Member, 1990.

Silverman, Robert D., G110

Referee for the Tenth IEEE Symposium on Computer Arithmetic; Referee for *Mathematics of Computation Journal*.

Smith, Chester L., G030

Chaired the Session on Electromagnetic Environments at the 1990 IEEE International Symposium on EMC, Washington, D.C., August 1990; Panelist at the 1990 National Association of Broadcasters Symposium, September 1990.

Thibodeau, Gregg J., G110

"Installing and Managing Workstations," Panel Member, Engineering Workstations Conference 1990 (EWC 90), Boston, Massachusetts, July 1990.

**External
Professional
Roles**

**Thuraisingham, Bhavani
M., G110**

Member of the Editorial Board of the *Journal of Computer Security*; Database Security Track Chair at the 6th Computer Security Applications Conference; Reviewer for *IEEE Computer*, *IEEE Transactions on Knowledge and Data Engineering*, *IEEE Transactions on Software Engineering*, John Wiley and Sons, National Science Foundation, 6th Computer Security Applications Conference, 4th IFIP Database Security Workshop.

Vilain, Marc B., G110

Area Chair (knowledge representation) Program Committee of Ninth National Conference on Artificial Intelligence (AAAI '91); Area Chair (qualitative reasoning) Program Committee of Twelfth International Conference on Artificial Intelligence (IJCAI '91); Organizing Committee, Spring Symposium on Implemented Knowledge Representation Systems, sponsored by the American Association for Artificial Intelligence; Referee, *Journal of Automated Reasoning*

**Wales, Charlotte W.,
G140**

IEEE P610 Computer Dictionary Working Group (Member of Standards Group).

Warren, James, G140

Organized activities for Subgroup 11, Special Operations-Low Intensity Conflict, at the 58th MORS Symposium, held at the Naval Academy, Annapolis, Maryland, June 1990.

Watro, Ronald J., G110

Reviewer for *Computing Reviews*.

**Wefer, Frederick L.,
G140**

1990 President of Template Graphics Software (TGS) User Network (TUN).

**Benitez, Alexander,
G140**

Instructor, Science/
Mathematics Cluster,
Germantown Campus,
Montgomery College,
physics, electrical engi-
neering, mechanical
engineering.

Bloom, Michael J., G030

Lecturer in Engineering
Management, West-
ern New England
College, Springfield,
Massachusetts.

Burger, John D., G110

Instructor, Computer
Science, Metropolitan
College, Boston
University.

**Cavanagh, Mary Ann,
McQuaid, Rosalie M.,
G110**

"TCP/IP Protocols" and
"TCP/IP Protocols Lab
Notebook and Instruction
Manual," Course taught at
NSA, Fort Meade,
Maryland, January 2-5
1990; "Socket Program-
ming Training Course"
and "Socket Programming
Lab Notebook," Course
taught at NSA, Fort
Meade, Maryland, June
12-14 1990.

Cooley, Jerry L., G110

Adjunct Faculty, Park
College. Kelly AFB and
Lackland AFB Education
Centers, Computer
Science Department,
"Introduction to Computer
Programming —
PASCAL;" "Selected
Topics in Computer
Science — Introduction to
Data Communications."

**Labonté, Robert C.,
G110**

Adjunct Professor,
Electrical Engineering
Department, Worcester
Polytechnic Institute.

**Maybury, Mark T.,
G110**

Invited Lecturer, "Plan-
ning Multisentential
English Text," The Human
Computer Interface
Laboratory, Queen Mary
and Westfield College,
University of London,
England, 17 December
1990; Invited Lecturer,
"Planning Multisentential
English Text," The Human
Computer Interface
Laboratory, Cambridge
University Computer
Laboratory, England, 18
December 1990.

**Mikelskas, Robert A.,
G140**

Lecturer, Johns Hopkins
University Graduate
School of Engineering,
teaching Computer
Science since 1973.

Moser, Philip J., G140

Adjunct Assistant Profes-
sor, Catholic University of
America Department of
Electrical Engineering,
Graduate level courses in
signal processing, and
electromagnetic scattering
since 1985.

**Mulvehill, Alice M.,
G110**

Invited Lecturer, "Knowl-
edge Engineering,"
University of Central
Florida, Florida, 21
February 1990 and 7
November 1990.

**Murphy, Alexander B.,
G110**

Guest Lecturer at Harvard
University.

Nadel, Mark E., G110

Lecturer, Department of
Computer Science, Boston
College.

1990
*Summary of
Professional
Activities*

**Teaching
Appointments**

Nieparent, Richard J., G140
Lecturer, Johns Hopkins University Whiting School of Engineering since 1979, teaching graduate courses in Data Communications Networks, Computer Network Architectures and Protocols, and Local Area Networks; Member of the Computer Science Department Program Committee of the Continuing Professional Programs Division of the Whiting School of Engineering since 1986; responsible for the communications networks concentration for the masters degree program in computer science.

Piazza, Richard L., G110
Instructor, Computer Science, Metropolitan College, Boston University.

Thibodeau, Gregg J., G110
Taught: "Network Design," Boston University Metropolitan College, Masters Program, Boston, Massachusetts.

Vilain, Marc B., G110
Invited Lecturer, "Knowledge Representation for Case-Based Classification," Bolt Beranek & Newman Artificial Intelligence Seminar Series, Cambridge, Massachusetts, 29 May 1990.

Warren, James, G140
Instructor in the Mathematics and Computer Science Department at Hillsborough Community College in Tampa, Florida, undergraduate-level courses on Introduction to Computer Science, College Algebra, and General Mathematics during the spring and fall terms of 1990.

Wu, Alan C., G110
Adjunct Faculty, Boston University, Graduate School, Computer Science Department, "Data Communications"; Adjunct Faculty, Northeastern University, State-of-the-Art Engineering School, Electrical Engineering Department, "Local Area Networks"; Adjunct Faculty, University of Lowell, Graduate School, Electrical Engineering Department, "Local Area Networks."

York, Louis A., G030
Instructor, Northeastern University; Instructor, SUNY, Brockport.

1990 **Fellows**
*Summary of
Professional
Activities*

James H. Babcock, G140
Institute of Electrical and
Electronics Engineers
Fellow



The Electronic Dissemination System (EDS) was developed for the intelligence community as a special project of the Intelligence and CINC Support Systems Division (G140). Features of the EDS demonstration system include a simplified user interface (no keyboard), very high quality rendering of text and graphics, retrieval of video segments, and system security through fingerprint authentication

MITRE annually selects a small number of programs for special recognition; we granted program awards to about 150 Bedford personnel in 1990, many of whom are members of the Center for Intelligence and Special Programs.

Program Accomplishment Awards were given for participation in the Sentinel Bright I program.

Program Achievement Awards were given for participation in the Joint Tactical Information Distribution System (JTIDS), Milstar Radome Engineering, and the North Warning System.

Brusil, Paul J., G110
Selected as Distinguished International Expert by the Second International Symposium on Integrated Network Management.

Claypool, Sharon A., Hamisevicz, Nicholas T., Reho, Marjorie E., G140
Received a letter of appreciation from the Jet Propulsion Laboratory and the Joint Tactical Fusion Program Office for their support to the development of a Tactical Simulation (TACSIM) operational scenario for use in testing the All Source Analysis System.

Haydu, Virginia, Janshego, Stephen W., G110
Outstanding Contribution Award for the "AFLC Local Area Network (LAN) Maintenance and Support Source Selection Evaluation Team," 6 April 1990.

Maciorowski, Susan M., G030
Selected by the President's Commission on Executive Exchange (PCEE) to serve as Presidential Exchange Executive for FY90, assigned as Special Assistant to the Director of Operations for the Information Management and Technology (IMTEC) Division of the U.S. General Accounting Office (GAO).

Roberts, Barbara H., G110
Elected to *Who's Who of American Women '91*.

Silverman, Robert D., G110, Stuart, Sidney, Former MITRE Employee
1989 MITRE Best Papers Award (received in 1990) for "A Distributed Batching System for Parallel Processing."

States, Michael C., G140
Honored at a CIA award ceremony held in Langley, Virginia, on December 11, 1990. Received the CIA's Intelligence Medal of Merit for "the performance of especially meritorious service or for an act or achievement conspicuously above normal duties." Michael worked in the CIA's office of SIGINT Operations before joining MITRE in April 1990.

1990 **Professional**
Summary of Societies
Professional
Activities

Our people belong to many professional societies, as shown in the list that begins on the following page. At the right is a list of professional societies that represent the greatest membership within the Center for Intelligence and Special Programs.

Institute of Electrical and Electronics Engineers	151
Association for Computing Machinery	74
Armed Forces Communications and Electronics Association	58
Association of Old Crows	34
Air Force Association	15
Boston Computer Society	11
MITRE Technical Women's Group	11
American Radio Relay League	10

Air Force Association	Applied Imagery Pattern Recognition	Special Interest Group on Operating Systems
Aircraft Owners and Pilots Association	Armed Forces Communications and Electronics Association	Special Interest Group on OPS
American Association for Artificial Intelligence	Army Association	Special Interest Group on Programming Languages
American Association for the Advancement of Science	Association for Automated Reasoning	Special Interest Group on Software Engineering
American Astronomical Society	Association for Computational Linguistics	Special Interest Group on SAC
American Business Women's Association	Association for Computing Machinery	Special Interest Group on SOFT
American Defense Preparedness Association	Special Interest Group on Ada	Association for Information Management
American Geophysical Union	Special Interest Group on ART	Association for Symbolic Logic
American Institute for Industrial Engineers	Special Interest Group on COMM	Association for Unmanned Vehicle Systems
American Institute of Aeronautics and Astronautics	Special Interest Group on Computer Architecture	Association for Women in Science
American Institute of Physics	Special Interest Group on Computer Graphics	Association of Former Intelligence Officers
American Management Association	Special Interest Group on Computer Human Interaction	Association of Military Surgeons of the U.S.
American Mathematical Society	Special Interest Group on Documentation	Association of Old Crows
American Physical Society	Special Interest Group on Graphics	Association of the United States Army
American Psychological Association	Special Interest Group on Information Retrieval	Boston Computer Society
American Radio Relay League	Special Interest Group on MOD	British Society for the History of Science (U.K.)
American Society for Non-Destructive Testing	Special Interest Group on National Organization	Cognitive Science Society
American Society for Testing Methods	Special Interest Group on Office Information Systems	Cornell Society of Professional Engineers
American Society of Clinical Pathologists		Digital Equipment Corporation User Society
American Society of Mechanical Engineers		European Association for Theoretical Computer Science
Apple Programmers and Developers Association		

1990
Summary of
Professional
Activities

**Professional
Societies**

History of Science Society	Reliability Society	Optical Society of America
Human Factors Society	Software Engineering Society	Pritsker Users Group
Information Systems Security Association	Special Interest Group on Security and Privacy	Quality Assurance Institute
Institute of Electrical and Electronics Engineers	Institution of Electrical Engineers (U.K.)	Quarter Deck
Acoustics, Speech and Signal Processing Society	Institute of Management Sciences	Reserve Officers' Association
Aerospace and Electronic Systems Society	Institute of Navigation	Security Affairs Support Association
Antennas and Propagation Society	International Federation for Information Processing	Society for Competitor Intelligence Professionals
Biomedical Society	International Laser Communications Society	Society for Computer Simulation
Communications Society	International Test and Evaluation Association	Society for Information Display
Computer Society	Internet Activities Board	Society of American Military Engineers
Control Systems Society	Laser Institute of America	Society of Automotive Engineers
Electromagnetic Compatibility Society	Mathematical Association of America	Society of Industrial and Applied Mathematicians
Engineering Management Society	Mensa	Society of Photo-Optical Instrumentation Engineers
Geoscience and Remote Sensing Society	Military Operations Research Society	Society of Physics Students
Information Theory Society	MITRE-Bedford Amateur Radio Club	Society of Women Engineers
Instrumentation and Measurement Society	MITRE Technical Women's Group	Sybase Northeast Kingdom Users Society
Lasers and Electro-Optics Society	National Association for Female Executives	Sybase Regional Users Group (Mass.)
Lightwave Technology Society	National Computer Graphics Association	The Computer Museum
Microwave Theory and Techniques Group	National Military Intelligence Association	United States Institute for Theatre Technology
Nuclear and Plasma Science Society	National Society of Black Engineers	United States Naval Institute
Quantum Electronics and Applications Society	National Society of Professional Engineers	
	Operations Research Society of America	

1990
Summary of
Professional
Activities

**Honorary
Societies**

During 1990 our people were members of many honorary societies, which are listed below. The honorary societies listed at right represent the greatest membership within the Center for Intelligence and Special Programs.

Eta Kappa Nu	30
Tau Beta Pi	28
Phi Kappa Phi	15

Alpha Lambda Delta	Psi Chi National Honor
Arnold Air Society	Society
Beta Kappa Chi	Sigma Beta Tau
Delta Epsilon Sigma	Sigma Gamma Tau
Epsilon Delta Pi	Sigma Pi Sigma
Eta Kappa Nu	Sigma Tau
Omega Rho	Sigma Xi
Omicron Delta Kappa	Tau Alpha Pi Association
Phi Beta Kappa	Tau Beta Pi
Phi Delta Kappa	
Phi Eta Sigma	
Phi Kappa Phi	
Phi Sigma Tau	
Pi Alpha Alpha	
Pi Mu Epsilon	
Pi Tau Sigma	

We have attempted to report all pertinent staff activities for 1990. We apologize for any inadvertent errors or omissions.

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